

# Treatment of Post-Covid patients with Chronic Fatigue and Cardiac Symptoms at Heilsustofnun: Utilization of balneology and natural remedies in medical rehabilitation.

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# Coronavirus in Iceland

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- Population of Iceland 330.000 people
- 5.525 confirmed COVID-19 cases – 1.7% of the population
- 28 deaths
- 14-day cumulative number of COVID-19 cases in Iceland per 100 000 is 44,5
  
- 27 referrals to Heilsustofnun
- 9 patients completed rehabilitation and discharged
- Currently 4 patients in rehabilitation



# Heilsustofnun Rehabilitation Clinic

- Signature elements – natural remedies:
  - Peloid therapy with locally harvested mud has been one of the trademarks at Heilsustofnun for over 60 years
  - Geothermal heat is utilized in the swimming pools and balneotherapy treatments at Heilsustofnun, as well as to grow our own GMO free organic vegetables
  - Nutrition is a holistic approach to wellness, recognizing the importance of a healthy diet
  - Heilsustofnun is surrounded with beautiful nature, mountains and river
- Heilsustofnun is an inpatient rehabilitation clinic and operates 24 hour a day, 7 days a week
  - Essential to the treatment, prevents depletion of energy if attending outpatient rehabilitation



# Post-Covid Rehabilitation

- Rehabilitation admission is 4-6 weeks, 24 hrs a day, including weekends
- Most patients admitted after Covid-19 infection have abnormal tiredness as their main symptom, some fulfill the criteria for Chronic Fatigue Syndrome
- Emphasis in treatment - calming the autonomous nervous system
- Calm, supportive environment, healthy and clean food, daily walks in nature surrounding the clinic
- Various relaxation methods such as: warm swimming pools inside and outside, sauna and steam baths, floating in warm water with special equipment using a floating hood, various hot and cold water therapies such as kneipp, hot/cold immersion therapy, hot tubs and cold water tubs



# Post-Covid Rehabilitation

- Necessary for our post-Covid patients to learn pacing
- Pacing is a method for managing physical, mental and social energy levels
- Recognize the body's own limits and staying within them
- Also soft cardiac rehabilitation with careful monitoring of symptoms before and after
- Water gymnastic, yoga and tai chi
- Other treatments as needed: massage therapy, acupuncture, physiotherapy and psychotherapy

# Quality Measures

- Quality of Life Scale: Measured at the beginning and end of each client's stay. Measures for example endurance, concentration, communication, sleep, anxiety, depression, physical health and pain
- Chalder Fatigue Scale: Measures physical and mental fatigue in chronic fatigue syndrome patients
- Sit/stand 1 minute test
- Walking 6 minute test
- Energy Diary: Scale 0-5 before and after activity (0 no energy – 5 full energy)
- VAS Scale: A Visual Analogue Scale (VAS) measures pain intensity, which has been widely used in diverse adult populations

# Peloids - Mud baths

- Peloids (mud baths) have been used as treatment for over 60 years at Heilsustofnun
- Peloids are an ancient remedy that has evolved as natural medicine in Europe for centuries
- Harvested at Reykjafjall in Hveragerði, and cleaned and diluted with water at Heilsustofnun
- The mud baths are 39-40°C and provide deep heat to the core of the body
- Clients lay in the mud for 15 minutes and then go to a relaxation area where they are wrapped in blankets and relax for 20 minutes



# Variety of Treatments

## Body and Mind

Medical diagnosis and treatment

Walks

Gym session

Water gym

Physiotherapy

Physical strength enhancement

Balance therapy

Massage

Nutritionist

## Body and Mind

Acupuncture

Psychotherapy

Mindfulness

Compassionate mind training

Deep heat therapy – mud packs

Educational programs

Tai Chi

Yoga

Paraffin wax treatment

## Natural Remedies

Healthy diet

Mudbaths - peloids

Contrast hydrotherapy (hot-cold water therapy)

Kneipp – cold water therapy

Sauna

Herbal baths



# Case reports

# Overall goals

- Individualized treatment plan
- Increase stamina
- Increase strength
- Improve mental health
- Increase quality of life



# Post-Covid patient A

## 63 years female - Fatigue

- Covid-19 in March 2020
- G93.3 Other disorders of brain, Postviral fatigue syndrome
- E66.9 Obesity, Obesity, unspecified
- M79.1 Other soft tissue disorders, not elsewhere classified, Myalgia
- R00.2 Abnormalities of heart beat, Palpitations
- F41.9 Other anxiety disorders, Anxiety disorder, unspecified

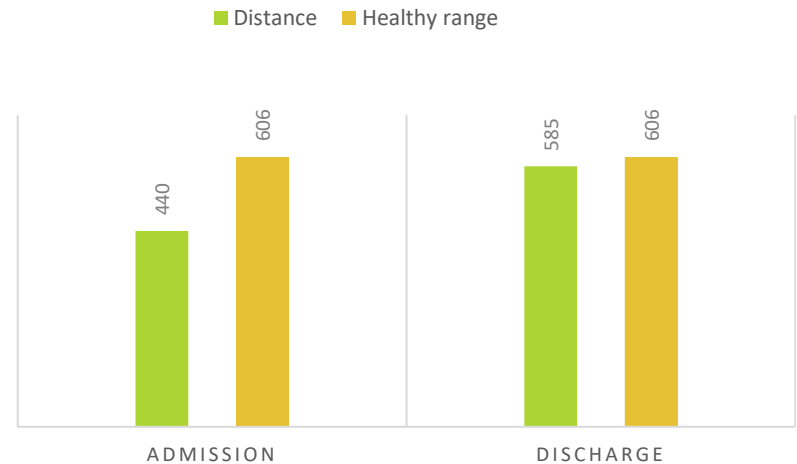
## Goal

- Individualized treatment plan
- Increase stamina
- Increase strength
- Teach „Pacing“ and energy preservation
- Increase quality of life

# Post-covid patient A - results

- Stand-sit 1 minute test:
  - Admission: x21 without assistance. According to age, 2,5% of goal
  - Discharge: x20 without assistance. According to age, 2,5% of goal
- Chalder Fatigue Scale:
  - Admission: 26 points (medium score for chronic fatigue is 24,4 points)
  - Discharge: 17 points (medium score for healthy person is 14 points)
- Energy diary:
  - Admission: 2/5 in energy. Frequently down to 0-1/5
  - Discharge: 2,5-3/5 in energy. More frequently staying at 3/5, occasionally falls to 0,5/5

## 6 MINUTE WALKING TEST



- 6 minute walking test:
  - Admission: 440 m without assistance. Calculated healthy range 606 m, pt completes 76,2%
  - Discharge: 585 m without assistance. Calculated healthy range 606 m, pt completes 96,53%

# Post-Covid patient B

## 52 years old female - Cardiac

- Covid-19 in March 2020
- I25.1 Chronic ischaemic heart disease, Atherosclerotic heart disease
- I10 Essential (primary) hypertension
- E11.9 Non-insulin-dependent diabetes mellitus, Non-insulin-dependent diabetes mellitus without complications
- E66.9 Obesity, Obesity, unspecified

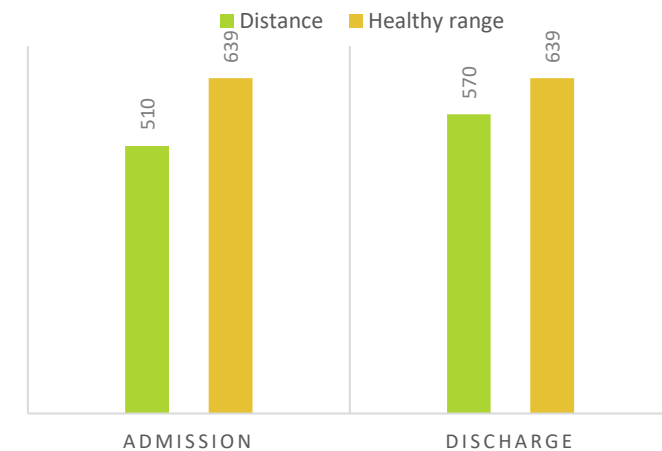
### Goal:

- Individualised treatment plan
- Increase stamina
- Increase strength
- Increase quality of life

# Post-covid patient B - results

- Stand-sit 1 minute test:
  - Admission: 20x without assistance. According to age, 2,5-24% of goal
  - Symptoms: light-headed. Uncomfortable feeling in chest
  - Discharge: 33x without assistance. According to age, 25-49% of goal.
  - Symptoms: Non
- 10-15 minutes stationary bike:
  - Admission: 80 Watts, 12 on Borg scale
  - Discharge: 105 Watts, 12 on Borg scale
- Energy diary:
  - Admission: 4/5 in energy. Frequently down to 1-2/5
  - Discharge: 4/5 in energy. Stays consistently at 4/5, no drop in energy

## 6 MINUTE WALKING TEST



- 6 minute walking test:
  - Admission: 510 m without assistance. Calculated healthy range 639 m, pt completes 77,8%
  - Symptoms: light-headed. Uncomfortable feeling in chest
  - Discharge: 570 m without assistance. Calculated healthy range 639 m, pt completes 89,2%
  - Symptoms: Non

# Conclusion

- Access to medical rehabilitation is essential to the healing process of Post-Covid patients
- Many are young people, wanting to return back to former life with family and work
- Many need to restructure their life all over again, due to long-term effects of Covid-19
- Socially and financially important to improve health and quality of life





Margrét Grímsdóttir 2020



THANK YOU



Be responsible for your health

NLFI Rehabilitation and Health Clinic  
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